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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/714,825 | 11/14/2003 | Keith T. Deconde | 061450/0306855 (FID-007-D) | 3214 |
| 27498 | 7590 | 12/22/2005 | EXAMINER | |
| PILLSBURY WINTHROP SHAW PITTMAN LLP P.O. BOX 10500 MCLEAN, VA 22102 | | | KIM, PAUL D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3729 | |

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/714,825

Applicant(s)

DECONDE ET AL.

Examiner

Paul D. Kim

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-68 is/are pending in the application.
- 4a) Of the above claim(s) 48 and 49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-47, 50-58 and 68 is/are rejected.
- 7) ☒ Claim(s) 59-67 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- Paper No(s)/Mail Date 11/14/03.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This office action is a response to the election of species filed on 10/19/2005.

Response to the Election of Species

1. Applicant's election of Species A, claims 40-47 and 50-68, in the reply filed on 10/19/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 48 and 49 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/19/2005.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --A METHOD OF MANUFACTURING A SENSING DEVICE TO IMAGE A TEXTURED SURFACE--.

Claim Objections

4. Claims 40-47 and 50-68 are objected to because of the following informalities:
Re. Claim 40: The phrase "conFig.d" as recited in line 5 and line 9 needs to be changed as --configured--.

Re. Claim 43: The phrase "conFig.d" as recited in line 3 needs to be changed as --configured--.

Re. Claim 45: The phrase "its" as recited in line 3 is not clear what the "Its" is indicated.

Re. Claim 46: The phrase "conFig.d" as recited in line 3 needs to be changed as --configured--.

Before the phrase "force" in line 3, insert a word --the--.

Before the phrase "fingerprint feature" in line 3, change "a" to --the--.

Before the phrase "force" in line 5, insert a word --the--.

Re. Claim 57: The phrase "conFig.d" as recited in line 3 needs to be changed as --configured--.

Re. Claim 58: The phrase "conFig.d" as recited in line 3 needs to be changed as --configured--.

Before the phrase "first device" in line 3, change "the" to --a--.

Re. Claim 59: After the phrase "a first and second device" in line 2, change the phrase "with" to --comprise--.

The phrase "conFig.d" as recited in line 3 and line 5 needs to be changed as --configured--.

Re. Claim 63: Before the phrase "first direction" in line 2, change "the" to --a--.

After the phrase "perpendicular to" as recited in line 3, change the phrase "the" to --a--.

Re. Claim 65: The phrase "conFig.d" as recited in line 3 needs to be changed as --configured--.

Re. Claim 67: After the phrase "wherein" as recited in line 1, change the phrase "the" to --a--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 40, 42, 45, 46, 56 and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Hassan et al. (US PAT. 5,844,287).

Hassan et al. teach a process of making a fingerprint sensor comprising steps of: providing a sensor array (12 as shown in Figs. 1 and 2) that is fabricated upon a base (30 as shown in Fig. 4), the base including an interconnect structure (51 as shown in Fig. 6A) electrically connected to the sensor array, the sensor array having cells configured to detect the textured surface and represent different portions of the textured surface with signals corresponding thereto as shown in Fig. 2; and mounting a one or more sensor support integrated circuit devices (14, 16, 18, 20 as shown in Figs. 1 and 2) upon the base, the at least one sensor support integrated circuit device electrically connected to the interconnect structure and configured to address the cells of the

sensor array and process the signals obtained from the sensor array as shown in Fig. 2 (see also col. 2, line 59 to col. 7, line 39).

Re. Claim 42: Hassan et al. also teach that the sensor array is fabricated by using passive sensing cells (see col. 2-4).

Re. Claim 45: Hassan et al. also teach that the cell is configured to react to a force exerted in its responsible locality, the force the result of a fingerprint feature pressed against the sensor array in the responsible locality as shown in Fig. 4.

Re. Claim 46: Hassan et al. also teach that a button (34) is configured to receive the force from the fingerprint feature and a flexible mechanical structure (32, 36) is formed below and contacted to the button, the mechanical structure deforming due to an amount of force exerted on the button and a contacting electrode (52) is disposed on the flexible mechanical structure, the contacting electrode interfacing with a base contacting electrode (51) on the base, such that when the contacting electrode contacts the base contact electrode as a result of a sufficient amount of force, a current flow is caused upon application of an external voltage as shown in Fig. 6E.

Re. Claim 56: Each sensor support integrated circuit device is disposed along an edge of the sensor array as shown in Fig. 1.

Re. Claim 57: The integrated circuit devices mounts only a first device (18 as shown in Fig. 2), the first device is configured to completely address each of the cells of the sensor array and process signals obtained from the sensing array.

Claim Rejections - 35 USC § 103

7. Claims 41, 47 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hassan et al. in view of Henschen et al. (US PAT. 5,010,233).

Hassan et al. teach all of the limitations as set forth above except electrically connecting contact pads on each sensor support integrated circuit device with the corresponding contact pads on the base. Even though Hassan et al. is silent about connecting the integrated circuit device with the base with corresponding pads, it is well known in the art in the manufacturing the integrated circuit device to electrically connect between contact pads on each integrated circuit device with the corresponding contact pads on the base or circuit board. In addition, Henschen et al. teach a process of electrically connecting contact pads (14) on an integrated circuit device (15) with the corresponding contact pads (13) on the as shown in Figs. 2 and 7 in order to connect electrically between contact pads on integrated circuit device with the corresponding contact pads on the circuit board. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a process of fabricating a sensor device of Hassan et al. by electrically connecting contact pads integrated circuit device with the corresponding contact pads on the base as taught by Henschen et al. in order to connect electrically between contact pads on integrated circuit device with the corresponding contact pads on the circuit board.

As per claim 68: Wire bridges (14) are provided and bonded from the integrated circuit devices to the interconnect structure within the base as shown in Fig. 7 of Henschen et al. Therefore, it would have been obvious at the time the invention was

made to a person having ordinary skill in the art to modify a process of fabricating a sensor device of Hassan et al. by electrically connecting contact pads integrated circuit device with the corresponding contact pads on the base by wire bridges as taught by Henschen et al. in order to connect electrically between spaced contact pads on integrated circuit device with the corresponding contact pads on the circuit board.

8. Claims 43 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hassan et al. in view of Kurakake et al. (US PAT. 4,873,476).

Hassan et al. teach all of the limitations as set forth above except a cable to the interconnect structure within the base. Even though Hassan et al. silent about a cable to the interconnect structure within the base configured to provide power and to transmit the signals, it would be obvious that the arrows as shown in Fig. 2 indicate for providing either power or transmitting the signals between the sensor s and the integrated circuit device or a first device (as per claim 58). In addition, Kurakake et al. teach a process of providing a cable (6) capable of providing power and transmitting the signals from sensors (see col. 1, lines 31-35) in order to optimize to operate the device. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a process of fabricating a sensor device of Hassan et al. by a cable as taught by Kurakake et al. in order to optimize to operate the device.

9. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hassan et al. in view of Kurakake et al. and further in view of Henschen et al. (US PAT. 5,010,233).

Hassan et al., modified by Kurakake et al., teach all of the limitations as set forth above except soldering attach pads on the cable to contact pads disposed on the base, the contact pads electrically connected to the sensor array. Henschen et al. teach a process of electrically connecting contact pads (portion to be connected) on the cable (84) with the corresponding contact pads (83) on the base (86) with solder (9) as shown in Fig. 8 in order to connect electrically between the cable and the corresponding contact pads on the circuit board (see col. 10, lines 56-68). Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a process of fabricating a sensor device of Hassan et al., modified by Kurakake et al., by electrically connecting between the cable with the sensors as taught by Henschen et al. in order to connect electrically between the cable and the sensors.

10. Claims 50-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hassan et al. in view of Walker et al. (US PAT. 6,049,327).

Hassan et al. teach all of the limitations as set forth above except covering the sensors with covering material. Walker et al. teach a process of making a sensing device including a process of providing an insulating material (48, 54 as shown in Fig. 5) to cover the sensors in order to insulate between the sensors and to protect the sensors (see also col. 7, line 16 to col. 8, line 15).). Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a process of fabricating a sensor device of Hassan et al. by covering the sensors with covering material as taught by Walker et al. in order to in order to insulate between the sensors and to protect the sensors.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to apply the covering material as recited in the claimed invention (as per claims 52-55) because Applicant has not disclosed that the covering material as recited in the claimed invention provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with Walker et al. because the covering material as recited in the claimed invention would perform equally well such as insulating between the sensors in Walker et al. Therefore, it would have been an obvious matter of design choice to modify the covering material of Walker et al. to obtain the invention as specified in claims 52-55.

Allowable Subject Matter

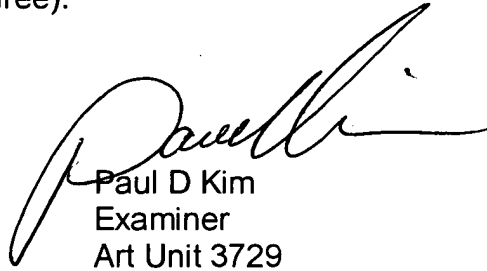
11. Claims 59-67 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D. Kim whose telephone number is 571-272-4565. The examiner can normally be reached on Monday-Friday between 7:00 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul D Kim
Examiner
Art Unit 3729